

## BOOK REVIEWS

**Biological Management of the Forest**

Pathology in Forest Practice. By Dow Vawter Baxter. 618 pp., illustrated, with chapter bibliographies, and index. New York: John Wiley & Sons. 1943. \$5.50.

As its title implies, this work is written for the practising forester—for the individual who wants specific answers to concrete problems in forest pathology. It is hardly a book for the layman, assuming, as it does, a basic knowledge of forest science and technique. But for the advanced student, the forest nurseryman, the silviculturist, or the person employed in the handling of forest products, it should prove an invaluable reference work.

The approach undertaken here to the pathology of the forest is entirely original, and may well mark a turning point in the literature of the field. Here, for the first time, emphasis is placed solidly on the forest community (whether nursery, woodland or plantation), rather than on pathogenic organisms associated with disease symptoms. Such emphasis would appear to be in line with the more advanced trends of present-day medical thinking, where patients rather than diseases, have become the principal objects of concern. Thus, in a book of some 600 pages, less than 50 are devoted to the chapter entitled: "The Fungi which Cause Disease." From here on the treatment is functional, under such headings as: damage appraisal, nursery, plantations, cultural practices, shade trees, and forest products—each in relation to disease incidence, character of injury, extent of losses, and control methods. This arrangement involves a certain amount of recapitulation both in the discussion and in the bibliographies appearing at the end of each chapter. While thus adding considerably to the bulk of the work, it has increased the availability of the material to the practitioner many-fold.

According to the thesis developed by Dr. Baxter, disease incidence results less from the pathogenicity of fungous organisms than from environmental conditions (natural or induced by improper cultural practices) which pre-dispose to infection. In addition, numerous states of "disease" are recognized in which attacking organisms other than fungi are involved, or where a disturbed metabolism of the tree is alone responsible. In discussing these so-called "physiological diseases," the role of soil and climatic influences is admirably portrayed.

Few pathologists in the country, today, possess the background of forestry and forest practice to have assembled this material; fewer still would have had the courage to present it in a form so completely divorced from the traditional concepts of plant pathology. As a natural result of the emphasis laid upon forest practices, the book includes a wealth of data concerned with var-

ious phases of nursery and planting technique and with methods of harvesting and regeneration in the woods. In fact, the title: "Biological Management of the Forest," would be none too broad for the field covered.

In its geographic range, the book is thoroughly cosmopolitan, in line with the author's well-known fondness for travel; frequent references are thus made to conditions in the different regions of North America and to Europe, which Dr. Baxter knows at first-hand. At the same time, there is a strong "mid-western" tinge to the work, and particularly in the sections dealing with the forest nursery and plantations, a rather large proportion of the case-histories is taken from the Lake States. From the easterner's point of view this has led to a few lapses, such as the footnote on p. 140 where, in citing the number of acres planted in the Lake States region in 1937 there is appended the remark: "Other agencies also planted trees during this period." This is indeed a conservative statement, when one considers the extent of the reforestation projects in New York and other eastern states during the thirties.

Special mention should be made of chapter VIII: "Relation of site and care of shade and park trees to disease incidence," which occupies pp. 387-484. There is some question, in this reviewer's mind, whether, in a book dealing primarily with "woods forestry," nearly 100 pages should have been devoted to shade trees—especially, when so many standard texts are available on the subject. The insertion of this chapter was doubtless thought necessary, since foresters, wherever found, are always expected to lend professional advice to owners of ailing shade trees. From this standpoint the material is adequate enough, though insect troubles are, of course, not included, making the section seem incomplete in comparison with the special works. Numerous diseases and injuries are described, including that from use of spray materials; in this latter connection, most of the attention is naturally given to fungicides. For this reason, apparently, no mention is made of injury from dormant-oil insect sprays, which has given arborists so much concern in recent years.

One of the unusual features of the book is the section (pp. 208-210) on rubber-plantations, having special reference to root-rot and its treatment. Mention should be made, also, of the superb illustrations which amplify every feature of the text: unique among these is the photo (p. 408) of twigs covered with ice after a glaze storm.

To summarize: Here is a work both scholarly and practical; a sound biological treatise and an extremely useful handbook, within the same text. It should become the inseparable companion of all who seek a better understanding of the forest, or who would apply forestry principles with a minimum of avoidable errors.